DOCUMENT RESUME

ED 390 120 EA 027 222

AUTHOR Loveless, Tom
TITLE The Influence of Subject Areas on Middle School Tracking Policies. Faculty Research Working Paper Series R94-19.
INSTITUTION Harvard Univ., Cambridge, Mass. Kennedy School of Government.
PUB DATE Jun 94
NOTE 66p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Ability Grouping; *Curriculum Design; Equal Education; *Intermediate Grades; Junior High Schools; *Middle Schools; Policy Formation; Politics of Education; *Social Stratification; Student Placement; *Track System (Education)
IDENTIFIERS *California

ABSTRACT

Grouping students by ability into courses with distinct curricula, or "tracking" as it is called in middle and high schools, has provoked a furious debate among educational scholars and practitioners. Research on tracking invariably characterizes the practice as a school-level, unitary phenomenon; schools are depicted as either tracked or untracked. One consequence of such thinking has been to narrow educators' policy options to either acceptance or rejection of tracking. By examining the policies of 373 California middle schools, this study challenges the characterization of school curricular policy as a unitary construct and presents evidence that tracking, as practiced in schools, evolves from its interaction with subject matter. The movement to reduce ability grouping, for instance, has achieved greater success in English courses than in mathematics. When viewed as a product of subject area subsystems, tracking's place in school organization comes into sharper focus. Data were gathered through: (1) a survey of all California middle schools, which elicited an approximate 42 percent response rate; and (2) case studies of 23 California middle schools, which included interviews with 175 principals and teachers. One table and one figure are included. The appendix contains case-study statistics. (Contains 39 references.) (LMI)

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# Faculty Research Working Paper Series

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**Tom Loveless**

**June 1994**

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# THE INFLUENCE OF SUBJECT AREAS ON MIDDLE SCHOOL TRACKING POLICIES

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## Abstract

Grouping students by ability into courses with distinct curricula, or "tracking" as it called in middle schools and high schools, has provoked a furious debate among educational scholars and practitioners. Research on tracking invariably characterizes the practice as a school-level, unitary phenomenon; schools are depicted as either tracked or untracked. One consequence of such thinking has been to narrow educators' policy options to either acceptance or rejection of tracking. By examining the policies of 373 middle schools, this study challenges the characterization of school curricular policy as a unitary construct and presents evidence that tracking, as practiced in schools, evolves from its interaction with subject matter. The movement to reduce ability grouping, for instance, has achieved greater success in English courses than in mathematics. When viewed as a product of subject area subsystems, tracking's place in school organization comes into sharper focus.

This article will appear as a chapter in *Research in Sociology of Education and Socialization* (Pallas, A., ed.), JAI Press.

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**The Influence of Subject Areas on Middle School Tracking Policies**

In an effort to explain the school system's contribution to social stratification, contemporary sociologists of education have shown an intense interest in curricular tracking, the assignment of students to separate courses of study based on measures of ability or prior achievement. Scores of studies have compared, with appropriate controls, the mean achievement outcomes of different high school tracks or of tracked and untracked schools, linking the stratification of educational achievement with the stratification of curriculum in schools (for two reviews with contrasting interpretations of the evidence see Kulik and Kulik, 1982, and Slavin, 1990). Critics of tracking argue that students attain disparate levels of academic achievement in schools because of the different amounts of knowledge distributed via ability grouping systems (Braddock and Slavin, 1993). Based on students' characteristics in different tracks, critics claim that tracking fosters achievement inequities among students, especially between historically advantaged and disadvantaged groups (Rosenbaum, 1976; Oakes, 1985, Braddock and Slavin, 1993).

Although some researchers have defended ability grouping on the grounds of instructional efficiency, others argue that a strong connection exists between ability grouping's effects on student achievement and inequitable social structures. By expressing the achievement outcomes of tracking as social goods distributed among social groups, the tracking indictment fits neatly with critiques of class reproduction (Bowles and Gintis,

1976), criticisms of the different social status accorded to different types of knowledge (Goodlad, 1984), and refutations of culturally bounded notions of intelligence as innate and immutable (Oakes, 1986). Moreover, tracking has been held up as an institutionalized practice promoting the resegregation of students by race (Oakes, 1986). These macrolevel sources of inequality, the critics of tracking argue, support tracking's use, and, in turn, are buttressed by tracking's stratified outputs. Historical evidence has been adduced to show that the objectives of curricular differentiation--inequitable achievement opportunities based on assumptions about students' occupational destinations--match the system's effects--inequitable achievement based on tracking's effects (Bowles and Gintis, 1976). In a voluminous literature, tracking's critics have told an astonishingly coherent story, one that has become the prevailing story of curriculum differentiation in American schools: the nearly universal adoption and persistent use of tracking is rooted in unjust principles and reaping unjust results.

This argument gained important political support in the 1980s when influential groups called for the untracking of American schools (e.g., the Carnegie Corporation, NAACP Legal Defense Fund, National Education Association, National Governors Association), and several states moved to reduce tracking in their middle schools (California, Massachusetts, Maryland, and Nevada are cited by Wheelock, 1992). By the early 1990s, notable untracking advocates could point to schools diminishing their use of curricular differentiation or abandoning it altogether (Oakes,

1992; Wheelock, 1992). There is an irony here. By holding up untracked schools as models of reform, these researchers introduce new protagonists into a story that we were previously told is all about macrolevel social structures. It seems that superintendents, principals, and teachers can untrack schools, and the controlling forces of society and culture can be overcome. It also appears that local context plays a more significant role in the development of tracking policies than one would conclude from the tracking literature.

This chapter is concerned with a second irony of the prevailing story--the depiction of schools as unitary organizations. Invariably, the policy choice is posed as one between tracked or untracked schools. This dichotomy is ironic because tracking research profoundly contributed to our understanding of the complex internal workings of schools. Tracking research represents a rejoinder to the idea that schooling is lodged in the aggregated characteristics of schools. It refuted the findings of several scholarly reports in the 1960s, most famously the Coleman Report, that schools exercise minimal influence on student achievement when compared to students' family background. Look inside the schools, the tracking researchers advised, to find the effects of schools. Implicit to the critical examination of tracking is the belief that schools must be disaggregated into their critical organizational components to uncover causal relationships between learning and schooling.

Yet, schools rarely emerge from the tracking literature with important organizational divisions other than college bound, regular, and vocational tracks. Despite this, we know other internal divisions are also salient to school life, especially to the interactions of teacher, student, and curriculum in the production of learning. Tracking is just one policy matter governing these interactions, and with the school as the targeted level of reform in the tracking debate, it is curious that the most significant influences on tracking policy have been found in the macrolevel structures of society rather than the microlevel structures of school organizations.[1] This is not to say that schools are impervious to the interests, values, and assumptions of society as a whole; it is to maintain--echoing the criticisms of the Coleman Report noted earlier--that tracking policies are best understood by examining tracking's relationship with the other ways schools organize the social interactions of teaching and learning. It is also to observe that the preoccupation of researchers with tracking's effects has neglected the study of how schools generate tracking policies in the first place.

In secondary schools, curricular tracks divide students, teachers, and curriculum into separate classes that function together as school subsystems. Another such subsystem of

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[1] Labaree (1988) is the exception. In his history of Philadelphia's Central High School, he notes the first appearance of two phenomena in the school's 1889 curricular reforms: subject area departmentalization and curricular stratification. These changes represented the school's attempt to shore up its competitive position in the local credentials market, particularly in regards to college admission.

secondary schools is the subject area, an organizational manifestation of the disciplinary boundaries defining types of school knowledge. By sorting students, teachers, and curriculum into classrooms presenting different subject matter, schools create subject area subsystems that cut across tracks. Indeed, these subject area demarcations wield every bit as much institutional influence on student learning as curricular tracks. The knowledge and skills actually learned by students, for instance, can be more readily identified by their disciplinary origins than their ownership by track. How to identify parts of speech was probably learned in an English class and the value of pi in a math course, even though these topics can be found in either high or low tracks by looking at the curriculum of different grade levels.

Subject area courses are components of a school's curriculum, but they are also part of a larger curricular system spanning grade levels and schools. Middle school teachers, for instance, not only teach a curriculum that is divided up among themselves; they also expect students to arrive with an adequate preparation for middle school course work. In turn, middle school teachers are expected to prepare students for high school course work. These expectations are reinforced by parental demands, achievement tests, district administrative regulation, state curricular frameworks, and graduation requirements. Teachers of the same subjects from elementary, middle, and high schools sometimes meet or communicate with each other to discuss

common curricular concerns and to coordinate the flow of subject area curriculum from one level of schooling to the next.

Unlike elementary school teachers, who are responsible for teaching several subjects, junior and senior high school teachers usually teach the same subject all day; disciplinary boundaries are so well grasped by teachers in middle schools and high schools that coordination of curriculum across classes to insure that all school subjects are taught is largely taken for granted. Moreover, even in multidisciplinary elementary classrooms, subject matter affects the variety of instructional strategies employed by teachers, the amount of time students spend working in groups, and the pacing and organization of content (Stodolsky, 1988). Like their colleagues at universities, K-12 math teachers tend to organize curriculum hierarchically while English teachers arrange literature units by genre or cultural origins. English teachers also evidence more variety in instructional goals and strategies than math teachers (Schmidt and Kennedy, 1990; Raudenbush, Rowan, and Cheong, 1993). One important aspect of the subject area subsystem, then, is its drawing on disciplinary traditions for defining the substance of what is taught and the appropriate instructional methods for the teaching.

In sum, subject area subsystems function on at least two levels that transcend the school--across grade levels and schools to define a K-12 course of study and within classrooms as instruction in a field of knowledge. Subject area subsystems also operate on a third level, within the school itself as the

constituent parts of the school's curricular menu.

Though all three levels of operation mediate the impact of subject-specific concerns on school policies, I will use the elements of this conceptual scheme to shed light on different aspects of the making of tracking policy in middle schools. The first level (subject as part of a K-12 curricular system) and the second level (subject as part of a discipline) will be used to uncover forces shaping the shared beliefs of educators in the same subject area. Put simply, the question these two analyses address is: why do middle school educators in different subject areas hold contrasting views on the tracking issue? The third level of subsystem operation (subject as a component of the school's curriculum) will be used to illuminate how subject area departments express their dispositions towards tracking within the internal machinery of school politics. Again put simply, the question will be: now that we know why different views are held by educators in different subject areas, what impact does this have on school tracking policies? Since this question addresses the central concern of the chapter, a brief review of what previous research has uncovered is in order.

Researchers who have studied the micropolitics of schools have documented subject area departments as secondary organizational units with leverage over curricular policy. Siskin found English departments opposed to tracking and math departments in favor "because of the understandings of teaching and curriculum within each subject" (Siskin, 1991, p. 147).

Siskin's work reinforces Ball's (1987) notion of the clash of "subject subcultures" that occurred when a British high school attempted to 'destream' its curriculum.

Other studies indicate departments formulate tracking policies independently from each other. A study of the paths taken by California high school students through stratified curricula concluded that departments track students in different ways; "These approaches vary within schools by department, that is, each subject reflects differences in beliefs and traditions about content and sequence and differences in institutional requirements" (Sanders, 1990, p. 229) These differences even appear to have policy consequences in subjects that one would intuitively expect to behave in a similar manner. Wilson and Rossman's examination of almost 2,000 student transcripts in five Maryland high schools discovered that only 35% of the students' track placements correlated across math and science (Wilson and Rossman, 1993, p. 87). These studies suggest that subject area differences in tracking policy arise from the departmental units where subject area knowledge is found; disciplinary differences play a role in the micropolitics of schools confronting the tracking issue.

All of the studies cited above examine the role of high schools departments. Few studies investigate departmental effects on tracking at the middle school level, though differences among subjects are well documented (Cawelti, 1988; Epstein and MacIver, 1990). Two studies comment indirectly on

the departmental role at middle schools, however, by investigating how students are assigned to middle school tracks. Hallinan (1992) examined student enrollment and achievement scores for eleven middle schools located in two districts. Although Hallinan concludes that both English and math track structures fail to respond to the distribution of student abilities within schools, no explanation is given for math having more tracks than English in one of the districts. If the policies establishing these tracks originated at the district level, which would explain why all of the schools in the district had the same policies, then one district felt it necessary to create different tracking policies for different subjects. One could draw the conclusion that subject area differences had a greater effect on this district's tracking policies than differences in the characteristics of students at the schools.

Useem (1992) discovered marked variation in middle school policies governing track assignment in mathematics. Focusing on policy differences among 26 Massachusetts school districts, the study concluded that students of equal ability do not have the same opportunity for enrollment in advanced mathematics in different districts. Assignment policies differed by the surrounding community's socioeconomic level, the criteria used to place students in tracks, and the attitudes of administrators about the importance of acceleration in mathematics. Since the study is confined to mathematics, subject matter differences in tracking policy do not receive attention, but two findings do

bear on the question at hand. First, Useem notes that the opinions of mathematics chairs and coordinators were reflected in school policy; "Thus these chairs, who remain in their jobs for many years, are in a position to put their own stamp on course offerings, ability grouping configurations, placement criteria, and rules about parental intervention" (Useem, 1992, p. 341). In addition, district enrollment in eighth grade algebra was highly correlated with district enrollment in high school calculus ($r=.684$), indicating that the tracking policies of middle school and high school mathematics departments work in close concert.

The manner in which the tracking systems of junior and senior high schools are connected has been explored by Gamoran (1992). The study focuses on the impact of junior high track level on assignment to high school track level through formal and informal practices, uncovering evidence of track inheritance that is not explained by achievement scores. Noting the variety of policies overseeing the junior high to high school transition, Gamoran also suspects that the linkages for subject areas may operate differently. Thus, though suggestive of uncoupled tracking policies among middle school subject areas, the research is inconclusive as to how or why these domain-specific policies occur. The body of literature analyzing high school track effects has only recently been joined by studies of middle school practices. In addition, the overwhelming interest in the effects of tracking systems on students has led to the neglect of inquiries into differentiation's policy origins.

This chapter explores the salience of departmental differences in determining California middle schools' response to the state's issuance of *Caught in the Middle* in 1987, a middle school reform document that called for, among other changes, less tracking in schools (California State Department of Education, 1987). The chapter is based on survey and case study data collected from California middle schools in 1990-1991. Because of this research, I began to doubt the appropriateness of characterizing tracking as strictly a school level phenomenon. It became clear to me that as schools face decisions on tracking policy, the discussion more often centers on whether a particular subject or another within a school should track or untrack instead of whether the school as a whole should do so. The prospect of differentiated policies constituting an individual school's curricular system calls into question the singularity of tracking's representation in two strands of the research literature--the literature explaining tracking and untracking's effects (with tracking represented as a school-level, independent variable) and in the literature describing tracking's historical origins (with tracking represented as a school-level, dependent variable). Tracking's decline from being universally practiced by nearly every subject in every school offers to reveal nuances that have been heretofore masked by its universality.

The chapter has five sections. The first section presents data on tracking in California middle schools from 1986-1990, the two years preceding and three years following *Caught in the*

*Middle*. Tracking patterns in mathematics and English are reported, the two subjects used for comparison throughout the chapter. In the second section, I examine middle school English and math course offerings as subunits of K-12 curricular systems. The middle school's position in the curricular continuum invites influences on curricular policy that originate in the high school. How these influences sway middle school English and math departments towards different stances on tracking policies will be discussed. The third section looks at how teachers in English and math view the organization of their disciplines' knowledge from different perspectives. Here the chapter's attention shifts to the structure of subject area knowledge within courses and how teachers respond to tracking policy in accord with their disciplines' teaching tasks. The fourth section examines the impact of these subject area discrepancies on school tracking decisions. I will give examples of schools deliberating the tracking issue where English and math departments made a difference in policy decisions. The role of departments in the micropolitics of schools is the central issue of this section. The fifth section of the chapter will offer a discussion of the findings' implications for tracking reform and future tracking research.

**Trends in Middle School Tracking**

Since tracking policy manifests itself in curricular

structure, an inventory of the curricular structures operating within California middle schools was needed to pursue the study's objectives. In the 1990-91 school year, I conducted a statewide survey of middle school principals to assess the types of tracking systems in place, changes during the preceding four years, and influences on tracking policies. All public California schools serving 6-8, 7-8, and 7-9 grades (894 schools) served as the population for the survey, the target population for *Caught in the Middle*--373 schools responded (41.7%). Though impinging on the generalizability of the study's findings, the response rate furnishes a sufficient number of schools to reflect a variety of policies and institutional settings. Self-selection is a larger problem. Since subject matter differences on tracking policy can lead to disharmony among school staffs, common sense would suggest that the subject matter differences uncovered by the survey probably understate the degree to which they actually occur. Nevertheless, this assumes a greater probability for a response from principals of schools where tracking is uncontroversial than principals of schools where the tracking debate is heated--an assumption without verification. Because of these limitations, we should consider the study as a preliminary examination of local policy environments and elements in these environments affecting implementation of one state's untracking initiative.

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Table 1 displays the percentage of schools reporting various tracking policies in mathematics and English, with the number of ability-grouped levels representing the degree of tracking. Both subjects exhibit a continuous trend towards untracking and a slight acceleration in reducing tracks after the release of *Caught in the Middle*. (1988 was the first year schools could realistically respond to the state document.) The proportion of schools with completely heterogeneous English classes, or only one level, increased from about one third in 1986 (31.3%) to nearly one half in 1990 (47.6%). The percentage of schools with three or more ability levels in English declined from 40.9% in 1986 to 16.1% in 1990.

Mathematics also experienced a reduction in tracking, but not as pronounced as in English; the schools with one, heterogeneous level in math only increased from 8.7% in 1986 to 11.2% in 1990. The percentage of schools with three or more levels is where the greatest change in math tracking occurred, a decrease from 71.3% in 1986 to 54.5% in 1990. The 1988 tracking patterns are similar to those for eighth grade math from the Longitudinal Study of American Youth. Hoffer (1992) reports that this national sample contained 8% of schools with one level, 25% with two levels, and 67% with three.

Despite the fact that both subjects have decreased the number of ability levels, sharp differences are apparent. Figure

1 presents these same data in graphical form to illustrate the differences.

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In 1990 about one half of the schools grouped students into highly tracked math structures, those with three or more levels, almost the same proportion that grouped English students heterogeneously into one level, structures that totally abandoned tracking. In English, while 16.3% of the schools went from some form of tracking in 1986 to untracked structures in 1990 (31.3% to 47.6%), only 2.5% of the schools did the same in math (from 8.7% to 11.2%). Thus, the schools responding to the survey were between six and seven times more likely to adopt heterogeneous grouping policies in English than in mathematics during this time period. Most of the math reductions in tracking were from three or more levels to two levels, a lessening in the degree of tracking but not its elimination. If this four-year trend stayed constant into the future (a dubious assumption since the rate of untracking seems to fall off for both subjects from 1989 to 1990), all the schools in the sample would achieve completely untracked English curriculum by 2003 but completely untracked math curriculum would not take place until more than a century later, in 2132.

Why is there such a stark difference between math and English? To help explain the survey results, I supplemented

these data with case studies of twenty-three schools. The case study schools were selected to provide a fair representation of tracking policies, policy sources (decided by school or district), graded configurations, school populations, socioeconomic and ethnic composition, achievement levels, and geographical location of the state's schools. Descriptive statistics for the case study schools, coded to insure anonymity, are provided in Appendix A.

Interviews with 175 principals and teachers were conducted at the school sites from January through June, 1991. After coding the interview data, I examined patterns in responses that might explain specific mechanisms working to produce tracking policies. The case studies contextualize the findings from the survey data, allowing for testimony from teachers and principals, and the stories of individual schools confronting the tracking question, to come into view. The ways school departments shape tracking emerge from this testimony. Again, considering that the case study subjects volunteered to participate in the interviews, readers should keep in mind the sample's non-random nature and the limitation of findings to this sample alone. A brief word on terminology should also be given. Some confusion might arise in my reference to middle schools (grades 6-8), intermediate schools (grades 7-8) and junior high schools (grades 7-9). Since the group as a whole is referred to as "middle schools," I will give identifying clues when referring to the grade 6-8 subset or the entire set of schools.

As I pointed out in the introduction, subject area subsystems function on three different levels--as components of K-12 curricular systems, as holders of disciplinary knowledge that is taught in the classroom, and as departments active in the micropolitics of school curricular policy. Let us now examine how these subject area roles spawn different tracking policies for middle school mathematics and English.

**Middle School Subjects as Part of a K-12 Curricular System**

Middle schools, intermediate schools, and junior high schools find themselves situated between elementary schools and high schools in the educational system. They depend upon elementary schools for the learning provided to students before arrival; they prepare students for the learning expected by high schools upon departure. On a practical level, those who work in middle schools soon become familiar with the consequences of their place in the K-12 continuum. Grade 7-8 intermediate schools are dramatically affected; every student is in either the first or last year at the school. Preparation for entrance and exit permeates the life of the intermediate school.

Historical tensions have arisen at the middle school from its role as an elementary-secondary bridge (Cuban, 1992). The birth of the junior high early in this century encumbered this new institution with the primary responsibility of preparing elementary students for high school. As a result, several high school practices--subject area departments, sequencing of

curriculum, and tracking--became characteristics of the junior high. In the era of school reform that marked the 1960s, however, many educators began to question the middle school's adherence to high school conventions. The call for greater autonomy arose simultaneously with the rapid consolidation of school districts, creating tighter organizational bonds for the two institutions. Middle schools from K-8 elementary districts and high schools from grade 9-12 districts were brought under unified K-12 governance.

Reformers claimed that young adolescents were socially, emotionally, and intellectually different from high school students, and that the schools serving them should reflect these differences. The campaign for this bundle of arguments came to be known as the "middle school movement." Though rooted in psychology, the press for middle school reform in the 1960s stimulated at least one important organizational change. Many junior highs transferred their ninth grades to local high schools during this time, shifting the courses needed by ninth graders for graduation to the high school as well. The number of junior highs declined significantly, and the number of intermediate and middle schools increased (Cuban, 1992). Though the middle school movement fell somewhat dormant in the 1970s, the surge of school reform in the 1980s stimulated a reawakening; untracking assumed an important place on the revived movement's agenda (Carnegie Council on Adolescent Development, 1989).

For some schools, the ebb and flow of middle school reform

has had an impact on their tracking policies. A veteran counselor described how, over the last twenty-five years, the counselor's school had gone from tracking to untracking and back to tracking. The counselor attributed the impetus for the school's return to tracking to the influence of high schools.

> We eventually went back into an honors situation because the high school was that way and parents were demanding that we do it. So we did. It started in the math department. We included algebra in the eighth grade for those top math students who were able to do it so they could move into geometry and get into higher math in high school. (Counselor)

In its latest incarnation, the middle school movement recommends untracking as part of a broader reform package, reforms designed to impute an independent and organic purpose for the organization, curriculum, and instruction of middle schools. Taken as a whole, the middle school movement advances a cardinal organizational objective--institutional autonomy--in this case, middle school autonomy from high schools. A common thread running through these educators' reflections is the need to divorce middle schools from secondary conventions.

> Going to middle school is going to change the nature of teaching because we're moving away from being like a mini high school, and we're going to more student oriented learning, more hands-on activities, more cooperative groupings, and problem solving. (Counselor)

> It was clear from the quality review that we had to do some things to make our school better and teaming answered the majority of questions. So the philosophy is heterogeneous grouping--but I think it's almost impossible to be totally heterogeneous. Our philosophy--and I think every middle school's philosophy--needs to be student-oriented rather than subject-oriented. When you

> look at subject-oriented places, they're homogeneously grouped. I don't ever want to get into the mini high school mode. (Principal)

Linkages to High Schools

By adopting policies unique from most high school structures, the middle school seeks to emerge from the shadow of the high school. The press to provide advanced mathematics courses, however, makes this objective problematic. The middle school's mathematics curriculum draws legitimacy from supplying able students for the high school's advanced math courses. Mathematics at the high school level is typically organized into carefully defined streams of course offerings; prerequisites for placement in these streams are clear. With a four-year sequence of advanced math looming ahead--usually consisting of geometry, advanced algebra, trigonometry/pre-calculus, and calculus--middle schools provide algebra to qualified eighth graders (about 17% of eighth graders according to the National Center for Education Statistics, 1991). University requirements elevate the concern of parents that their children receive the preparation necessary to achieve in the high school setting. Moreover, many of these schools are governed by unified K-12 districts, allowing for central office monitoring of student matriculation to high school. Educators from three schools describe the ties that constrain their schools from eliminating tracking in math, even though the rest of the school curriculum is untracked. All three are advocates of heterogeneous grouping.

> And the only thing we're going to be doing is offering Algebra in the eighth grade...and that's because we offer calculus at the high school level, and it would have a negative impact on the high school program if we didn't have algebra. (Principal)

> If you go with the heterogeneous grouping, you wouldn't have eighth grade algebra--but the state demands that eighth graders have access to algebra. Our department wouldn't have it philosophically--we believe in heterogeneous. I have many students who don't have the background for algebra--they're not ready--so you can't give it to everyone, but we're told we must provide it here. In order to get fifth year math as a senior and the AP classes, you have to have algebra in eighth and pre-algebra in seventh. (Teacher, Math)

> We kept Algebra in the eighth grade so that we don't disadvantage good math students when they go on to high school. (Assistant Principal)

The middle school's curricular linkages with the high school generate a pair of opposing forces on the tracking issue. Educators in the middle school movement strive to differentiate the philosophy, policies, and practices of their institutions; organizational differentiation and specialization of teaching adolescents undergird their support for heterogeneous grouping. Sundering ties to the high school curricular stream presents considerable risks, however, especially for the math curriculum. Why do these risks seem to fall more heavily on the math curriculum than on English?

In addition to the algebra imperative pointed out above, part of the answer stems from the way middle school students matriculate into high school math and English courses. In contrast with English, high school math prerequisites almost

always demand successful completion of specific courses. Regardless of test scores, a bright math student who has not completed an algebra course stands very little chance of admission to the next course in the high school math sequence. A bright English student, on the other hand, may move from one track to another upon high school entry based on achievement test scores, teacher recommendation, or even performance on a writing sample. These differences, of course, highlight an important point, one often obscured in the debate on whether tracking is good or bad: tracking in mathematics and tracking in English are not the same entity. This matter will be explored in greater depth now as we examine how disciplinary knowledge is organized as course content.

**Middle School Subjects as Part of a Discipline**

The teachers I interviewed were not just middle school teachers but teachers of English and mathematics and other subjects. Educational issues such as tracking are viewed differently by those who toil in separate educational fields. Innovations are scrutinized for what they contribute to the task of teaching students the skills and knowledge of a given discipline. As a result, a reform's value does not always hold up across subject areas. This was suggested by the survey data showing disparate English and math tracking policies. What I found surprising in the case studies, however, was the degree of agreement by teachers and principals that disciplinary boundaries are strong, that they do indeed affect policy, and that they should be respected in policy matters. Even at schools where tracking had been hotly debated by faculty members, educators from every field drew distinctions between the essential nature of mathematics and English, a recognition that led outspoken advocates on both sides of the issue to think twice about forcing their adversaries to join them in the promised land. Let us explore some of the substantive characteristics of math and English that foster this tolerance.

Mathematics

Math teachers and their colleagues tend to view mathematics as a hierarchical sequence of concepts requiring mastery. While it is fair to say that the 1992 Mathematics State Framework

challenges this notion, portraying mathematical knowledge as something socially and individually constructed by learners (California State Department of Education, 1992), the teachers I interviewed in 1991 did not share this belief. Instead, learning math was generally seen as mastering a series of skills and concepts, with prerequisite knowledge essential to further progress in the continuum. Like the math teachers we encounter in other studies, skepticism was expressed about reforms initiated by state and district curricular leaders, especially reforms challenging the importance of prerequisite knowledge for student progress (Schwille, et al., 1983; Cohen and Ball, 1990). Policy makers who favor untracking were often described as out of touch with the realities of classrooms.

> It's all about the framework and the latest drafted framework...I don't know; I find it hard to believe that it's coming from math teachers themselves, you know, the ones that are strong in the classroom. (Teacher, Math)

> I'm sure she's [district math coordinator] got some real good arguments. And things have always looked good on paper. But my personal opinion is I think she's lost her perspective. I could be wrong, but I think she's lost her perspective of...from being out of the classroom so long. (Teacher, Math)

The diminution of content knowledge as the primary criterion for assigning students to courses directly assails these math teachers' assessment of what is valuable in their curriculum. Math teachers frequently referred to content, instead of process or affect, as the substance of their teaching. Furthermore, with content coverage seen as imperative to good teaching,

heterogeneously grouped classes were viewed as unmanageable obstacles to professional excellence. An exasperated math teacher anticipates the frustrations he will encounter while teaching classes of students grouped heterogeneously, a task he has experienced before.

> There are-there must--there are some concepts you must cover. Otherwise, you're not going to go on, and you're going to have problems later on. So that's what bothers me. Are you going to be playing around here? Are you going to make sure you cover everything you're supposed to cover? (Teacher, Math)

The curricular upshot of these proclivities is a mathematics that is hierarchical, content driven, and conducive to ability grouping. Two principals who are against tracking lament the persistence of ability grouping within their schools' math departments.

> It's a different kind of subject, but they all want to teach the top end. Nobody wants to teach the bottom. Nobody is breaking down my door and saying, "Oh, I'll be glad; I'll be happy; I'm thrilled." I don't know... Maybe it's more quantifiable, more cut and dry, more linear. (Principal)

> That's only because it's vertical. And almost every other learning is horizontal. So because math is vertical, there are certain kids at certain levels. But, theoretically and philosophically, I think as a school, we would not have algebra. (Principal)

Whether mathematics is truly more vertical, more

quantifiable, or more linear[2], the case study educators on both sides of the tracking issue tended to agree that there is something different about math. These principals' struggle with the tracking issue vividly illustrates the complexity of untracking school curricular structures. As school leaders responsible for converting the tracking debate's abstractions into real policies, they not only face administrative constraints (DeLany, 1991) and political pressures from outside the school (Loveless, in press), but also cleavages within the school that are institutionalized around subject areas.

The case studies are populated with educators laboring in the schools for what they believe to be a sound education for their students and for the policies and practices they see supporting that endeavor. These beliefs are shaped, in part, by the subject matter teachers are responsible for teaching; subject matter makes a difference in how teachers conduct their work (Stodolsky, 1988). Let us now consider English teachers and their curriculum.

English

English is a subject conducive to heterogeneous grouping. At the middle school level, the content of English is decidedly non-hierarchical. According to the state framework, seventh grade content focuses on literature from various world cultures

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[2] Romberg (1992) provides an extensive review of the research supporting the reform of these traditional approaches to mathematics.

and eighth grade on American authors. Objectives are cast in broad language--i.e., read, analyze, and discuss literature, express oneself clearly in written and spoken language (California State Department of Education, 1987a). Although the state and school districts may recommend certain literary works for use in the classroom, considerable discretion is granted to teachers as to their completion. Unlike mathematics, where a demonstration of course mastery in pre-algebra is often required to proceed into algebra, students may advance through English by simply avoiding retention in grade level (though many districts require summer school or a passing grade on a writing sample to make up failed classes.) An accelerated seventh grade student who fails pre-algebra, for instance, repeats the same course the following year. A student who fails seventh grade English, however, might be placed in a lower track, but the student moves on to eighth grade English nevertheless.

These differences in student promotion highlight the fact that math and English tracking systems are not the same, despite their convolution in much of the tracking literature. The familiar track designations--honors, regular, and remedial--distinguish ability levels of students in English courses, but appellations describing curricular content distinguish math tracks--algebra, geometry, etc.) The extent to which math courses represent stratified curriculum is clear, but English tracks have no comparable authoritative form. The state curricular framework does not delineate what each English track

entails, graduation requirements are fulfilled by successfully completing course work in any of the tracks, and the same textbook may be used in all three tracks at the same school.

My point here is not that the curricula of English tracks are alike; it is that individual English teachers hold considerable authority over the way tracks' curricula diverge. This is authority that math teachers do not usually command. Beneath their formal indicators of similarity, English tracks may diverge as teachers adapt the curriculum to respond to environmental contingencies. Page (1991), in her penetrating analysis of lower track English classes, notes that since the advent of tracking early in this century, American educators have promulgated a pair of contradictory aims--the same education for all and an education that suits individual differences. Tracking attempts to harmonize this contradiction, and, as Page observes; "Teachers assuage their doubts by differentiating lower-track lessons but asserting that the differentiation is imperceptible" (Page, 1991, p. 182).

In contrast to school mathematics, teacher discretion in English is enhanced by the subject's nonlinear, flexible structure. The nonlinear character of the English curriculum renders ability grouping less germane. To illustrate the notion, an English teacher compares the subject to math.

> You have to teach to mastery in math: you don't have to in English. You don't have to master all of the aspects, so it's not the same building block thing. It should be, in my estimation--it's just not. (Teacher, English)

In English classes, process can compete equally with content as valued learning. The theory behind process-oriented approaches to written composition, for instance, is that students who might struggle with spelling, subject-verb agreement, and the proper use of subordinate clauses can be rewarded by simply experiencing the writing process. In classrooms where formal curricular hierarchies are shunned, students go through the stages of brainstorming ideas, engaging in peer editing, and composing final drafts. Learning accrues from each writing project, but the learning that takes place does not necessarily follow a predetermined sequence or direction. The rhythm of a student's own development, not a subject's intrinsic structure, calls the tune on curricular content.

Flexible organization of content allows for teacher autonomy in fashioning instructional strategies. In the case studies, English teachers were more likely to use cooperative learning and peer tutoring in their classes, to possess a repertoire of instructional strategies, and to adjust pace and content as the need arose. These propensities ease the burden of coping with a wide span of achievement in the classroom. Teachers of heterogeneously grouped classes reported changes in curriculum coverage, grading policies, homework assignments, and oral versus silent reading time in their classrooms. Two English teachers and an administrator discuss the ways in which heterogeneous grouping alter classroom instructional practices.

> Cooperative learning is frequently tied in with the issue of advanced and remedial tracks and all

> that sort of thing. I think that cooperative learning works better with heterogeneous classes. There's more to draw from. But, more importantly, we have not just that technique but a number of other techniques and things that we should have been doing for years but kind of gave up when we gave up one-room schoolhouses--peer tutoring, different grouping practices, flexible grouping practices, kids working in pairs.
> (Teacher, English)

> We have kids down to about the third grade reading level. We do an awful lot of reading in class. I read to them, the good readers read also, so the kids are hearing it and seeing it. If you do about two-thirds of whatever it is in class, they get some grasp of what's going on--what they don't get is the depth of understanding.
> (Teacher, English)

> Heterogeneous teachers have to be more diversified in their methodology. I mean they have to look at the visual learner, the auditory learner, the kinesthetic learner. They have to have materials that are at a more complex level and some that are at a simpler level. They have to create ways for kids to work together so that the more able students can support the less able students.
> (Assistant Principal)

Curricular hierarchies, the optimum balance of content and process, the choice of instructional methods--these aspects of education are in themselves controversial. This chapter, however, is not the appropriate forum for weighing the respective merits of contending positions on these issues. My objective here is to illustrate how a host of curricular concerns are intertwined with a school's deliberation of tracking policy and how these sentiments coalesce around the characteristics of school subjects. On the tracking issue, departments are the doors through which contrasting disciplinary views enter the school's political arena. It is to this topic that we know turn.

## Subject Area Departments as Participants in the Micropolitics of Tracking

Subject area departments do not have exclusive jurisdiction over curricular policies; many parties share in the control of the school curriculum. State and district administrators use their authority to coordinate curriculum across geographical areas, district boundaries, and school sites. School principals use their authority to coordinate curriculum across their school's grade levels and subject areas. Out of these activities, the curriculum we associate with states, districts, and schools gets formed, the abstract curriculum that is talked about in public discussions of what is taught in the school system.

When administrative policy deliberations involve the interests of departments, teachers of subject areas frequently stake out positions and lobby for decisions in their favor. Upper level policies governing achievement testing, textbook selection, and course requirements, for instance, garner the interest of subject area professional groups. At the local level, policies pertaining to curriculum and instruction--including tracking--receive departmental attention. Policy makers recognize the importance of teacher input on such matters; it is commonplace for teachers representatives from various academic fields to sit on curriculum committees at all levels of educational governance.

To complicate the politic of curricular policy making, controversial proposals sometimes spur intense lobbying from

organized parent groups and community advocates. Even the casual observer of educational politics is aware of science educators fighting battles over creationism, social science educators over multiculturalism, and health educators over sex education and AIDS awareness programs. In many communities, efforts to untrack schools have faced opposition from parents, particularly from parents of high achieving students (Braddock and McPartland, 1990; O'Neil, 1992). Regardless of outcome, public controversies exacerbate the tendency towards centralization and control of the curriculum (Hannaway, 1993). Policy conflicts that primarily involve rivals within the educational system tend to be resolved through compromises that maintain both administrative authority and departmental viability.

If efforts to coordinate curriculum result in standardized policies for all disciplines, tensions may arise within the educational bureaucracy; subject area idiosyncrasies and administrative desires for uniformity may clash. Subject area linkages with elementary or secondary practices, beliefs about the structure of curriculum, conceptions of appropriate pedagogies, and values concerning the importance of content and process manifest themselves in the subculture of subject area departments. Departments act in their school's political environment to sway curricular policies towards these institutionalized interests, beliefs, conceptions, and values.

For the vast majority of the twenty-three case study schools, tracking policy has been formulated without rancor.

After the state's recommendation, most of the schools either made no changes in their tracking systems or partially reduced tracking in subject areas where the departments were favorably disposed to the reform. For three of the schools, however, the tracking issue sparked sharp disagreement. As outliers, these schools' experiences are not generalizable; they are reported here as illustrative of the role departments play when the politics of tracking lead to policy disputes.

Autonomy and Compromise

Decentralization of policy making authority to the departmental level allows math teachers to shield themselves from the untracking taking place in other subject areas. At one school I visited, untracking was taking place in all subjects.

> It started in our English--because the English teachers--this was maybe three years ago. Our English teachers were saying, 'Well, we're teaching the same thing to the top and the middle students.' And that was still excluding our remedial reading students. So we just took them and put them all together. So it started there, and then it moved into the social science area, and they did the same thing. (Counselor)

Tracking in math was reduced from three levels to two levels in the fall of 1990; remedial students were pooled with the grade level students to achieve the reduction. Within a matter of weeks, the math teachers came to the conclusion that the change was a failure. At the semester break, they traded students across classrooms to reinstate the prior three level system. Some of the key players at the school describe what happened.

> It didn't work...I exchanged 12 students. I picked out my very best, gave them to another teacher, and I took her lowest...It's better for the kids to have them homogeneously grouped. So we did that. There are other departments that feel--math is kind of a--you know, everybody--even other people in other departments agree that math should not be part of this. They feel, too, that math is one of those things that--the way it's structured and the concepts and the things that you have to learn to do--work with, they agree that it should not be. (Teacher, Math)

> We moved them back in January, which was after our first testing and we found we were going nowhere with the lower kids. It was not done based on teachers just saying, "Hey, it's not working." It was based on standardized tests in textbooks, comparing them to previous years as to how our lower-level kids achieved and our average kids; and then it was compared on the CTBS scoring. We found our lower-level kids were not obtaining as good of a developmental increase as we have in the past. Now, we also compared that to how these same kids did in the sixth and fifth grades. So we do not just look at this year and say, "Well, you know, they're low," because we might have a low class coming in. Not all years are equal. So we went back and looked at the sixth grade and found, well, they were pretty normal; went back to fifth grade and found they're fairly normal. (Teacher, Math)

> Heterogeneous grouping and math--that didn't really work out real well. We had kids going to the math teachers and coming to me and saying, 'This is the work I did in the third and fourth grade. It's too easy. And other kids in the math class saying, 'It's so hard I can't do it.' So math really wanted to go completely homogeneous again this year...I think in math, you need to stay with homogeneous grouping. I think you have specific areas--I feel that the lower kids and the upper kids are going to miss out. The lower won't get the help that they've gotten, and the upper won't get the challenge that they should get. (Counselor)

The principal at the school, an advocate of untracking, reached an agreement with the math department for the following

school year. Once again, stratification of math was to be reduced to two levels, but this time grade level and above grade level students would be grouped together. Remedial classes were to remain intact. This compromise allowed the math department to maintain its autonomy as other departments moved toward heterogeneously grouped classes.

Political Opposition to District Policy

Tracking's critics frequently point to the parents of high achieving students as ardent foes of untracking (O'Neil, 1992). In one of the case study schools, the parents of high achieving students sought a political solution to their opposition to heterogeneously grouped classes. This school's curricular structure was changed after its district school board mandated honors courses in all subjects, including previously untracked English classes. The story demonstrates how departments can politically oppose centralization of curricular policy at the district level and subvert upper level mandates.

Located in a rural area that is rapidly becoming suburbanized, the school had untracked all academic subjects except mathematics until 1990. In that year, a parent group petitioned the district school board to reinstate advanced classes, pointing out the inconsistency of a district policy that guaranteed gifted programs at elementary schools and advanced placement courses at high schools, but only heterogeneous grouping in most middle school subjects. After weeks of debate,

the board directed its middle schools to offer an honors level sequence in English, history, and science.

The English teachers and principal at the school oppose tracking, seeing harm done to the achievement of the school's large Latino population. They believe honors level courses skim off the best students and make cooperative learning, an instructional strategy they favor, impossible in the regular program--with no role models in the classrooms and no high achievers to facilitate group learning.

> We wrote a letter to the board complaining that this decision was made without our input--well, the language arts did. That, you know, the decision was made without involving us, and we didn't get a chance to present our program or, you know, answer to anything. And they just did it, which is typical. (Teacher, English)

The English department, joined by history and science, believed that the curricular structure of their school had been imposed on them for political, not pedagogical reasons, citing the powerful members of the community behind the push for an honors sequence: Anglo parents of gifted children, parents who are active in the schools and who contribute money to school board election campaigns. The departments saw themselves allied with state policy favoring untracking against elite political forces in the community.

In the following year, the school engineered a rather creative way to comply with district policy while simultaneously accomplishing its own objectives. All students were scheduled into a single level of classes for English, science, and history.

By granting an honors level designation to these untracked, heterogeneously grouped classes, the faculty outfoxed the school board.

> The board did this to appease a group of parents. And so we stuck--instead of having one advanced class, we had three. And the kids that are in there are not advanced, you know, and it wasn't even in order to fill those classes. It's just in order--we were trying to sabotage the system, and we did. (Teacher, English)

This school's strategy for coping with hostile district policies--obfuscation of curricular structure by mislabeling courses--is possible because of the loosely coupled nature of the school system (Weick, 1976). For districts to monitor the conformity of a school's actual tracking practices with its formal tracking policies is virtually impossible. Indeed, obfuscation can serve both sides of the tracking issue. A school I visited where the district explicitly mandated untracked English classes, for instance, purposely used the master schedule to sort students by ability into what were publicly touted as heterogeneously grouped classes.

Political Opposition to State Policy

The third case is a school located in a working class neighborhood of a major metropolitan area. Like the last school, it also serves an ethnically diverse population. In 1991, the school was the subject of a program quality review, a procedure where the state sends a team of educators to monitor compliance with state policy in the expenditure of state categorical monies.

The state review team sharply criticized the school's heavily leveled curricular structure, especially its four ability groupings in mathematics, recommending reductions in math levels and intensive inservice for teachers in heterogeneous grouping strategies. United in opposition to changes in their school's tracking policy, the principal and teachers argued that heterogeneous grouping threatens the effectiveness of remedial and advanced programs at the school, citing numerous state and national awards for distinguished service to bolster their claim of past success. Led by members of the math department, the staff took their opposition to the school's parent council and received a unanimous resolution opposing any reductions in ability grouping at the school.

As the key players in marshalling opposition to state policy among staff members and parents, the math teachers argued that mathematics requires a hierarchical ordering of curriculum, that mastery of prerequisite concepts and skills is necessary before students can successfully advance through the math curriculum. Most teachers from other subject areas not only told me that they agreed with this conception of mathematics, but also found hierarchical ordering appropriate to portions of their own curricular content. The teachers and the principal of this school regarded the state untracking policy as a recommendation based on the political interests of an elite that dominates state policy, an elite out of touch with what happens in classrooms, with what the parents at their school want, and with what is

pedagogically sound.

Though these schools take strikingly different positions on tracking, subject area departments see outside forces attempting to impose a curricular policy upon them in all three cases. A conflict exists between the math department and school policy (as set by the principal) in the first case, between the English department and district policy (as set by the school board) in the second case, and between the school and state policy (as interpreted by the state review team) in the third case. From one perspective, these conflicts can be seen as bureaucratic struggles among different levels of the educational system (the state, the districts, the schools, and the departments) for authority over school practice. From another perspective, however, the conflicts reveal deeper fissures, the tensions arising from completely different ways of viewing the knowledge constituting school curriculum.

These tensions may arise at different levels of governance. The first conflict was contained at the school site. In this school the principal compromised with a resistant department, allowing variation in tracking policies within the school. The last two conflicts extended beyond the school. An English department fought district policy mandating tracked honors courses; a math department fought a state review criticizing its heavily tracked curriculum. In these last two cases, departments sought confederates in their political struggles--school board members, parents, and other departments. Both of the rebellious

departments were fortunate in having sympathetic principals at their schools, permitting the forging of both internal and external alliances that presented a unified front on the tracking issue.

Let us keep in mind these three schools' experiences as we consider the implications of subject area differences for future tracking policies and tracking research.

**Implications for Tracking Policies and Tracking Research**

This chapter has examined how middle school tracking policy is shaped by the subject area in which it is implemented. Operating as subsystems of educational organizations, subject areas receive policy cues and exert policy influence through the subsystem's three levels of operation. First, as a component of the K-12 curricular program, middle school subject matter sits at the threshold of secondary education, a position compelling mathematics to mesh its curricular offerings with the hierarchical sequencing of courses found in high schools. Second, as the embodiment of school-based interpretations of intellectual fields, subject areas mold curricular content and pedagogical regimes to correspond to distinctive disciplinary characteristics. Thus, how educators approach two of the most crucial tasks in the educational enterprise--deciding what is taught and how to teach it--is bounded by the subject area for which these decisions are made. These differences in approach coalesce formally within departmentalized units in the schools,

providing the organizational conduit for math and English departments to express different views on the tracking issue. As participants in the politics of tracking, these departments bargain with each other, administrative authorities, and outside actors to defend their interests in the policy making process.

Very few people will find the basic premise of this chapter revelatory--that mathematics is more heavily tracked than English. The study's usefulness is in presenting an up-close view of how a large sample of schools responded to state initiatives on tracking reform and how subject areas etched their differences into the schools' subsequent policies. Pursuing the logic of the three operative levels of influence one more step, I will now discuss some of the implications of this research and the areas where future investigations might profit.

## Middle School Tracking Policies

If the experience of the California middle schools in this study is any indication, it certainly appears that the untracking movement will achieve greater success in English than in mathematics. Despite the habit of researchers to depict schools as either tracked or untracked settings, a more accurate portrayal would depict school policy as an amalgamation, a collage of independent polices governing semi-autonomous departments within schools. Two other reforms may affect this arrangement. Although the press for interdisciplinary teams of teachers could smooth over some of the fragmentation among

subjects, efforts to devolve more control over curricular policy to teachers could strengthen subject area differences. It is too early to tell the effect of these changes on curricular differentiation. At this point, it is reasonable to conclude that compromised curricular structures, containing elements of both heterogeneous and homogeneous grouping, will become the common curricular structure of middle schools.

As indicated in the introduction, empirical research on contemporary curricular stratification has primarily focused on the effect of tracking on student achievement. Explanations for tracking's causes usually rely upon historical inquiries, with scant attention paid to policy making at the school level. The untracking movement's increased momentum in the late 1980s places tracking's universality in flux, opening opportunities for research that will increase our understanding of mechanisms at school sites, including the interplay of school subjects, that govern the formulation of curricular policy. Evaluating the response of different subject areas to other educational reforms will also enrich our understanding of how schools make critical decisions.

K-12 Curricular Systems

An important development detected here is the English program's increasing affiliation with elementary school practices and the math program's continued affiliation with high school practices. This could have interesting consequences for middle

school curriculum, especially in terms of the status accorded different subjects. In the elementary curriculum, reading instruction holds a preeminent position of prestige and influence; learning how to read is the capstone of a youngster's first years in school. Ability grouping for reading instruction is quite common in these early grades, suggesting inevitable tensions in the marriage of middle school English with elementary language arts. Elementary schools may move towards more heterogeneous grouping for reading instruction, or the use of ability grouping and the proportional mix of the various topics in the language arts--reading, written composition, oral expression, literature--could define new boundaries separating elementary from middle school curriculum.

The untracking movement will no doubt have a more profound effect on middle schools' relationship with high schools. If mathematics remains the only tracked subject in the middle school curriculum, high school educators may come to regard math as the only 'real' subject taught in middle schools. Unless high schools start to place greater value on the achievement outcomes of heterogeneously grouped classes, math could gain in status at the middle school level. Indeed, to forestall math's ascendancy in status, the public at large will need to join the high schools as converts on the tracking issue. Tracking reformers frequently argue that untracking must be accompanied by a transformation in deeply held beliefs about schooling, among these, beliefs concerning what constitutes valuable knowledge (Oakes, 1986).

This observation is both ideological and pragmatic. Securing the place of innovations in school practice often requires concomitant shifts in institutional environments, especially their appraisal of the symbolic currency backing various aspects of schooling (Meyer and Rowan).

Disciplinary Fields

Untracking also requires changes in the practice of teaching. Robert Slavin has pointed out that schools should not expect untracking to have a significant impact on student achievement "unless they also undertake changes in curriculum or instruction likely to improve actual teaching" (Slavin, 1990, p. 494). Grouping practices, curriculum, and instruction are indeed interlocking, but this poses a daunting challenge for untracking's advocates. As two researchers familiar with classrooms have observed; "Changing one's teaching is not like changing one's socks (Cohen and Ball, 1990, p. 334) The alterations in teaching mentioned in this chapter--more emphasis on process, group work, and multimodal tasks--may be easier for some subject areas' instructors than others. Moreover, the ability of teacher inservice training to effect these changes remains to be demonstrated, especially its effectiveness with teachers who adamantly oppose the untracking agenda. A resistant teacher might ask a committed trainer, "If I must change my teaching and curriculum to unlock the benefits of untracking, why not just tell me the parts of my teaching and curriculum you find

objectionable and leave tracking alone?" Indeed, Simon's notion of satisficing--the human being's tendency to make only those changes minimally sufficient to achieve an objective--suggests the likelihood of such questions (Simon, 1957).

Variation in classroom teaching strategies is likely to grow in untracked situations. By reducing the stratification of curriculum, course constraints on teaching practices are relaxed. Mathematics teachers who teach algebra classes to eighth graders receive strong signals as to what will occur in the classroom. Teachers of heterogeneous eighth grade English classes, on the other hand, cover a number of topics, each with a different degree of difficulty. They also choose from a variety of teaching strategies. This professional discretion, coupled with different English and math tracking policies, means that a student's achievement in English may, in the future, largely result from the teachers she encounters, while achievement in math will be largely determined by the courses she takes. Again, future research could test these hypotheses.

Micropolitics of School

In schools serving small student populations, scheduling constraints bind disparate subject area policies in subtle ways. Untracked English classes still evidence some homogeneity in student ability when mathematics classes continue to group students by ability. With few sections offered in a given subject during any one period of the day, the assignment of high

ability eighth graders to an algebra course results in these students receiving similar schedules for the entire day, and the same is true for students placed in remedial math courses. Patterns of elective course work (where students may pick, for instance, between shop and foreign language) heighten the stratification. At one school I visited, this situation led to resentment on the part of English teachers, who took a strong stand against tracking in their department. Mathematics, however, continued with three ability levels. For the English teachers, the *de facto* tracking of their heterogeneously grouped classes vitiated the curricular and instructional changes they had implemented, causing a few tense confrontations with the math department. These kinds of structural constraints on tracking policy make bargaining and compromise among departmental units more difficult to achieve in smaller schools. It is also important to note that such intricacies are usually ignored when researchers use large, national data sets to compare the achievement of students from tracked classes and untracked classes. Like the obfuscation of tracking policy I described occurring at two of the case study schools, untracked classes may not always be what they appear to be.

The English and math tracking differences could also tap into community controversies on the tracking issue. As I noted in the introduction, critics of tracking argue that tracking is counterproductive for students of color and economically disadvantaged students. If minority members of a community fight

to diminish the use of tracking in the schools, mathematics could become viewed by many as a subject catering to the interests of an elite. Conversely, parents of high achieving parents hold intense suspicions that their children will not receive an adequate education in untracked classes, and English could become viewed by many as a subject lacking substance or rigor. Indeed, other analyses I have conducted of the survey data show parent influence on tracking policies to be strongly associated with tracking, not untracking, and this pattern holds up for schools of all socioeconomic strata and for schools of all achievement levels (Loveless, in press). This association may not persist in communities where tracking becomes an explosive political issue. The case studies demonstrate that some departments have been willing to go outside the school when their stance on the tracking issue is threatened. Though successful in gaining political allies, the potential exists for departmental cleavages to spill into the community, exploiting pre-existing divisions based on race, class, or achievement. If this occurs, sensitive and unbiased ethnographies could help us fathom what is taking place.

The tracking controversy touches upon many of the perennial conflicts in American education, conflicts over what should be taught, how teaching should occur, who should benefit, and how student achievement can be elevated. The significance of these issues has cloaked the discussion of tracking in a shroud of vehemence, where the complexities of tracking's school-level

policy origins have remained well hidden. The dominant explanations--that schools are tradition-bound, resistant to change, and driven by powerful social forces--weaken in the face of increased tracking reform. A more attentive consideration of schools' internal organization, including the organization of subject matter, might lead to a better understanding of the curricular structures schools exhibit today and in the future.

**Table 1**

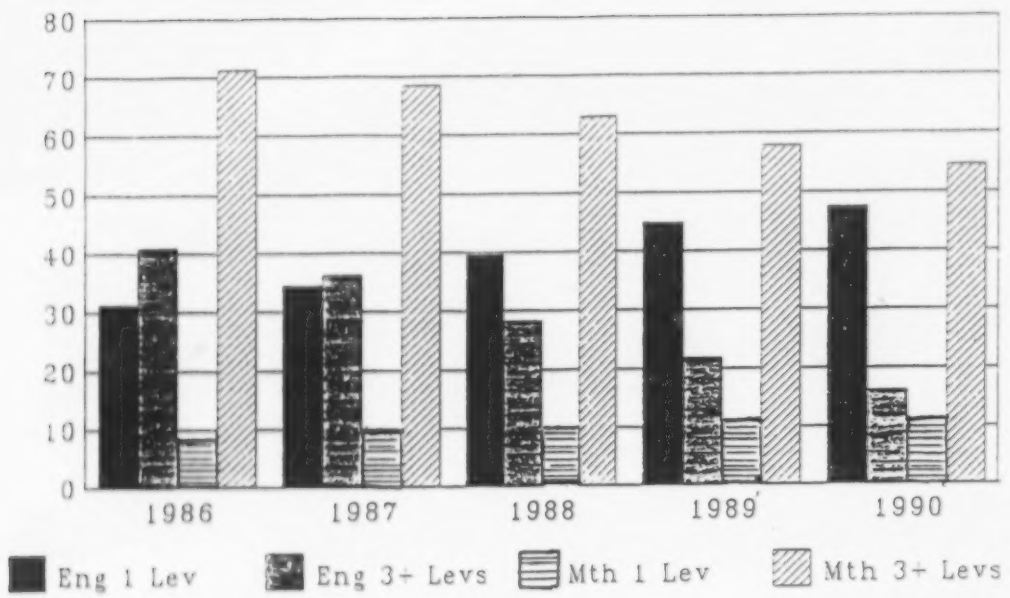
**Percent of Middle Schools With Levels of Tracking in 8th Grade Subjects, 1986-1990 (n=373)**

| | Levels | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|---|---|
| English | 1 | 31.3 | 34.5 | 39.6 | 44.9 | 47.6 |
| | 2 | 27.9 | 29.4 | 32.2 | 33.3 | 36.3 |
| | 3+ | 40.9 | 36.2 | 28.3 | 21.8 | 16.1 |
| Math | 1 | 8.7 | 9.6 | 10.1 | 10.9 | 11.2 |
| | 2 | 20.0 | 21.9 | 26.9 | 31.2 | 34.3 |
| | 3+ | 71.3 | 68.5 | 63.0 | 57.9 | 54.5 |

Figure 1

# Tracking Trends in English and Math

## (1986 - 1990)



## APPENDIX A

### CASE STUDY SAMPLE STATISTICS
**(HIGH represents value above state median, LOW below state median)**

| SCHL | MEAN LEVS | SRC | GRDS | POP | NON WHT | SES | RDG SCORE |
|---|---|---|---|---|---|---|---|
| A | 1.000 | SCHOOL | 6-8 | LOW | HIGH | LOW | LOW |
| B | 1.000 | DIST | 7-9 | HIGH | HIGH | LOW | LOW |
| C | 1.125 | SCHOOL | 6-8 | LOW | LOW | HIGH | HIGH |
| D | 1.250 | BOTH | 7-8 | HIGH | LOW | HIGH | HIGH |
| E | 1.250 | SCHOOL | 6-8 | LOW | LOW | HIGH | HIGH |
| F | 1.250 | BOTH | 7-9 | HIGH | HIGH | LOW | LOW |
| G | 1.250 | BOTH | 6-8 | LOW | LOW | HIGH | HIGH |
| H | 1.250 | SCHOOL | 7-8 | LOW | HIGH | HIGH | HIGH |
| I | 1.625 | BOTH | 6-8 | LOW | HIGH | LOW | HIGH |
| J | 1.750 | DIST | 7-9 | HIGH | HIGH | LOW | LOW |
| K | 1.875 | DIST | 6-8 | HIGH | HIGH | LOW | LOW |
| L | 2.000 | DIST | 7-8 | LOW | LOW | LOW | LOW |
| M | 2.000 | BOTH | 7-9 | HIGH | HIGH | LOW | LOW |
| N | 2.000 | BOTH | 7-9 | LOW | LOW | HIGH | HIGH |
| O | 2.000 | DIST | 6-8 | HIGH | HIGH | LOW | LOW |
| P | 2.125 | BOTH | 7-8 | LOW | LOW | HIGH | LOW |
| Q | 2.250 | SCHOOL | 7-8 | HIGH | HIGH | LOW | LOW |
| R | 2.375 | BOTH | 7-8 | HIGH | LOW | HIGH | HIGH |
| S | 2.375 | SCHOOL | 7-8 | LOW | LOW | HIGH | HIGH |
| T | 2.500 | DIST | 7-8 | HIGH | LOW | HIGH | HIGH |
| U | 2.625 | SCHOOL | 7-8 | LOW | LOW | HIGH | HIGH |
| V | 2.750 | SCHOOL | 7-8 | LOW | HIGH | LOW | LOW |
| W | 2.750 | DIST | 7-8 | HIGH | HIGH | LOW | LOW |
| Case Study Sample Median | | | | 301 | 56% | 2.78 | 252 |
| State Mean (n=888) | | | | 293 | 58% | 2.86 | 257 |
| State Standard Deviation | | | | 150 | 24% | .66 | 47 |

Variables: SCHL=school code, MEAN LEVS=mean number of levels in academic subjects, SRC=source of tracking policy, GRDS=grade levels served by school, POP=school population, NONWHT=school percentage of nonwhite students, SES=school socioeconomic index, RDG SCORE=school's 1990 CAP reading score

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